

Threaded Climate Extremes Expanding Climate Extremes with Past Records

ThreadEx, which stands for Threaded Extremes, takes the maximum and minimum temperature, and the daily total precipitation recorded at National Weather Service Automated Surface Observing Stations (ASOS) and pieces it together with other nearby historical data to create a single, long-term set of daily weather information dating back well over a hundred years.

Threading a station record involves a number of steps. The record of a currently active station is used as the starting point for a station thread. This station's current record is used as far back in time as possible. Other local weather stations nearby are then identified to extend the thread further back in time, with preference given to National Weather Service and Weather Bureau stations. Partner input was then solicited and this local expertise was used to fine tune the station threads.

ThreadEx changes the official climate sites of Raleigh-Durham International airport climate record to the Raleigh Area climate record, and the Piedmont-Triad International Airport climate record to the Greensboro Area climate record. This threaded dataset extends the Raleigh record from 1944 back to 1887. The period of record at Greensboro extends backward from 1928 to 1892. See below for an explanation for each site.

The new Raleigh and Greensboro Area climate record datasets can be viewed (1st link) and downloaded (2nd link) at the following web pages. If there are any questions please contact Brandon Locklear or Nick Petro at (919)515-8209.

For the Raleigh Area climate record dataset:

<http://www.erh.noaa.gov/rah/climate/data/rdu.daily.records.temp.precip.snow.html>

or

<http://www.erh.noaa.gov/rah/climate/data/rdu.daily.records.temp.precip.snow.xls>

For the Greensboro Area climate record dataset:

<http://www.erh.noaa.gov/rah/climate/data/gso.daily.records.temp.precip.snow.html>

or

<http://www.erh.noaa.gov/rah/climate/data/gso.daily.records.temp.precip.snow.xls>

Raleigh Area

Threaded Data Period of Record: 1887 to Present

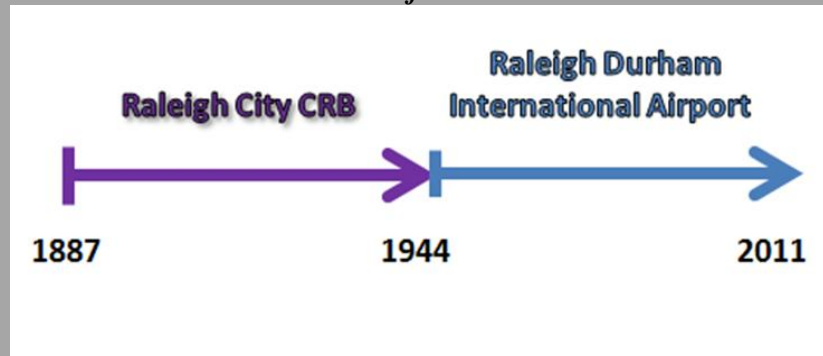


Figure 1: ThreadEx extends the Raleigh records from 1944 back to 1887.

Station History:

From 1887 to 1944 weather observations were taken from the Weather Bureau Office located in the downtown area of Raleigh. The various buildings occupied during that period were within an area of three blocks.

In May, 1944, the official weather observations were moved to what is now the Raleigh- Durham International Airport. Weather observations continue at the Raleigh-Durham International Airport through present day, with the Automated Weather Observing System (ASOS) largely replacing human observers in 1995.

Greensboro Area

Threaded Data Period of Record: 1892 to Present

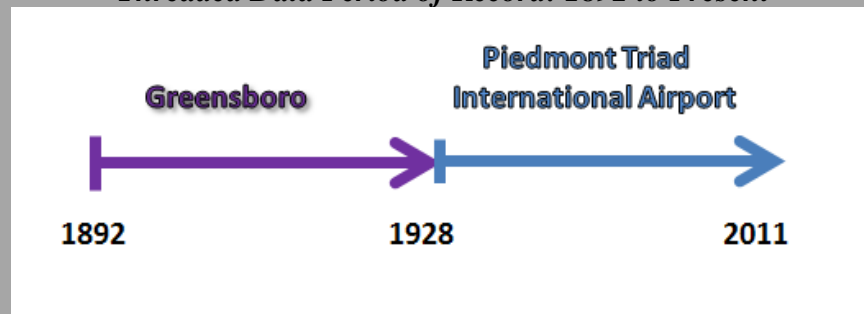


Figure 2: ThreadEx extends the Greensboro records from 1928 back to 1892.

Station History:

From 1892 to 1928 weather observations were taken at the Greensboro cooperative site located at 427 Arlington Street in Greensboro.

In May, 1928, the official weather observations moved to what is now the Piedmont-Triad International Airport. Weather observations continue at the Piedmont-Triad International Airport through present day, with the Automated Weather Observing System (ASOS) largely replacing human observers in 1995.